



STATE OF UTAH  
NATURAL RESOURCES & ENERGY  
Oil, Gas & Mining

Scott M. Matheson, Governor  
Temple A. Reynolds, Executive Director  
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

MEMORANDUM  
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TO: Board of Oil, Gas and Mining

FROM: Cyril J. Young, Engineering Geologist *CJY*

SUBJECT: Tentative Approval for Shale Development Corporation  
Sand Wash Oil Shale Test Program  
ACT/047/005  
Uintah County, Utah

DATE: March 10, 1983

The Division of Oil, Gas and Mining staff have reviewed the Mining and Reclamation Plan (MRP) submitted by Shale Development Corporation for the Sand Wash Oil Shale Test Program. At this time, the Division still has concerns with sections of the MRP. However, these are minor concerns and considering that the test project is to be on a relatively small scale, it was felt that it was not worth holding up the permitting process to resolve these concerns. Therefore, the staff recommends tentative approval for the project and the amount of surety at this time. However, final approval will not be granted until all points of contention are resolved. An Executive Summary and bond estimate are attached for your review and information.

CY/btb

Attachments



EXECUTIVE SUMMARY  
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Shale Development Corporation  
Sand Wash Oil Shale Test Program  
ACT/047/005, Uintah County, Utah  
Sections 28, 29 and 33, Township 11 South, Range 18 East

### Background Information:

Shale Development Corporation filed an initial mine application in November 1980, for development of oil shales in the Stillwater Zone of the Green River Formation, along the Green River about 30 miles southwest of Ouray, Utah. An initial review of this plan related to the operator certain deficiencies which needed to be addressed. Further work on the project was unavoidably delayed by the operator.

Shale Development Corporation has recently refiled a revised plan for a test project to be limited to twenty (20) acres. The proposal includes the removal of approximately 30,000 cubic yards of oil shale and extracting the bitumin on-site.

### Location:

The test program will be limited to disturbing 20 acres in the east half of Section 29, Township 11 South, Range 18 East in Uintah County. The site is located along the old Butterfield Stage Road one mile southwest of the Sand Wash Ferry site on the Green River.

### Geology:

The oil shale in this area is located in two basic zones, the Stillwater Zone and the deeper Mahogany Zone. For the test project only the Stillwater Zone will be mined. It is a 10 foot thick seam of oil shale located above the thicker, more economical Mahogany Zone in the Green River Formation, which is a gently dipping accumulation of sandstones, siltstones, limestones and shales. The Stillwater Zone outcrops at the proposed minesite at an elevation of 5,120 feet.

### Soils:

The majority of the area to be mined is composed of shallow, steep-sloping, well-drained and moderately alkaline soils. They are very sparsely vegetated and subject to high runoff and high geologic erosion.

### Hydrology:

There are no water sources within the project area. The drainage is downslope to the east and is confined to the one drainage along the Butterfield Road. Summer thunder showers probably account for the majority of the yearly precipitation.

### Ecology and Vegetation:

The vegetation community is basically a mixed desert shrub type composed of sparsely growing alkali sacaton, four-winged saltbrush and salt sage. Ground cover is approximated at only 15 percent. There are no known endangered species in the area.

Structures and Facilities:

No permanent structures will be erected on the project site. The temporary facilities will consist of a pilot retort, a trailer, several small utility buildings and small retorts, three portable tanks for storage of potable water, effluent water and oil, diesel and propane storage tanks, a diesel generator and a small jaw crusher.

No food services or living facilities will be erected on-site. Sanitation facilities will be leased chemical toilets and culinary water will be hauled from Roosevelt.

Mining and Reclamation Plan:

During Operations:

1. This project will be an "on-site" evaluation of ore crushing, handling and retorting prior to later development of a viable mine plan.
2. The current access road will be extended in a southerly direction through the 10 foot thick Stillwater Zone of oil shale. This will provide approximately 65,000 cubic yards of excavated overburden and 30,000 cubic yards of oil shale. Where available, topsoil will be removed, stored and bermed to prevent erosion.
3. Overburden will be compacted as fill below the area of excavation. The oil shale will be stored until processed, out of the prevailing wind patterns within the wash area. Berms leading to a drainage culvert will be placed around the storage area to control runoff.
4. Spent shale from the pilot retort testing will be compacted in fill areas daily to minimize blowing dust. Containment berms will minimize ground percolation.
5. OSHA approved warning signs will be placed in and around the mining area. There is no expected discharge from mining operations and no anticipated highwalls will be generated during mining.

After Operations:

1. The area of disturbance is planned for less than twenty (20) acres. Approximately 5-1/2 acres of the area will be roads and not reclaimed by the request of the landowner, Sand Wash Mining Company.
2. All equipment, buildings, foundations, piping and storage tanks will be removed and the property left clean of foreign material and debris.

3. Areas affected by mining will be leveled, available stored topsoil redistributed and the area reshaped to approximately the existing terrain.
4. The area will be planted with a seed mix of grasses, forbs and shrubs approved by the Division biologist.

Surety:

The surety form has not been determined as yet but the amount posted with the Division of Oil, Gas and Mining will be for \$24,340.00. The project is expected to be completed and reclamation started at the end of 18 months.

# DIVISION OF OIL, GAS, AND MINING

## BOND ESTIMATE

OPERATOR: Shale Development Corporation

MINE NAME: Sand Wash Project

LOCATION: State of Utah, Salt Lake Meridian, T11S, R18E

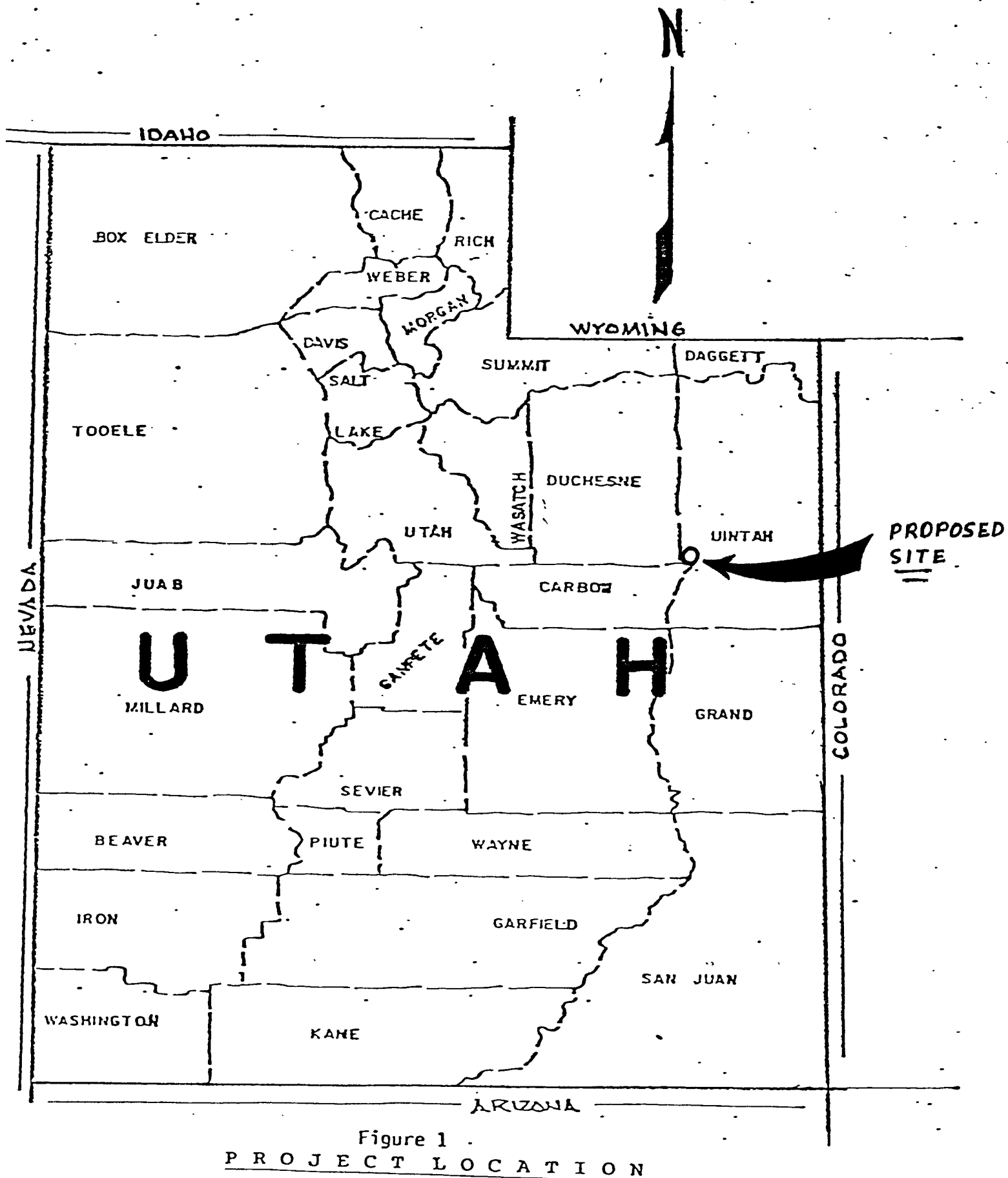
COUNTY: Uintah

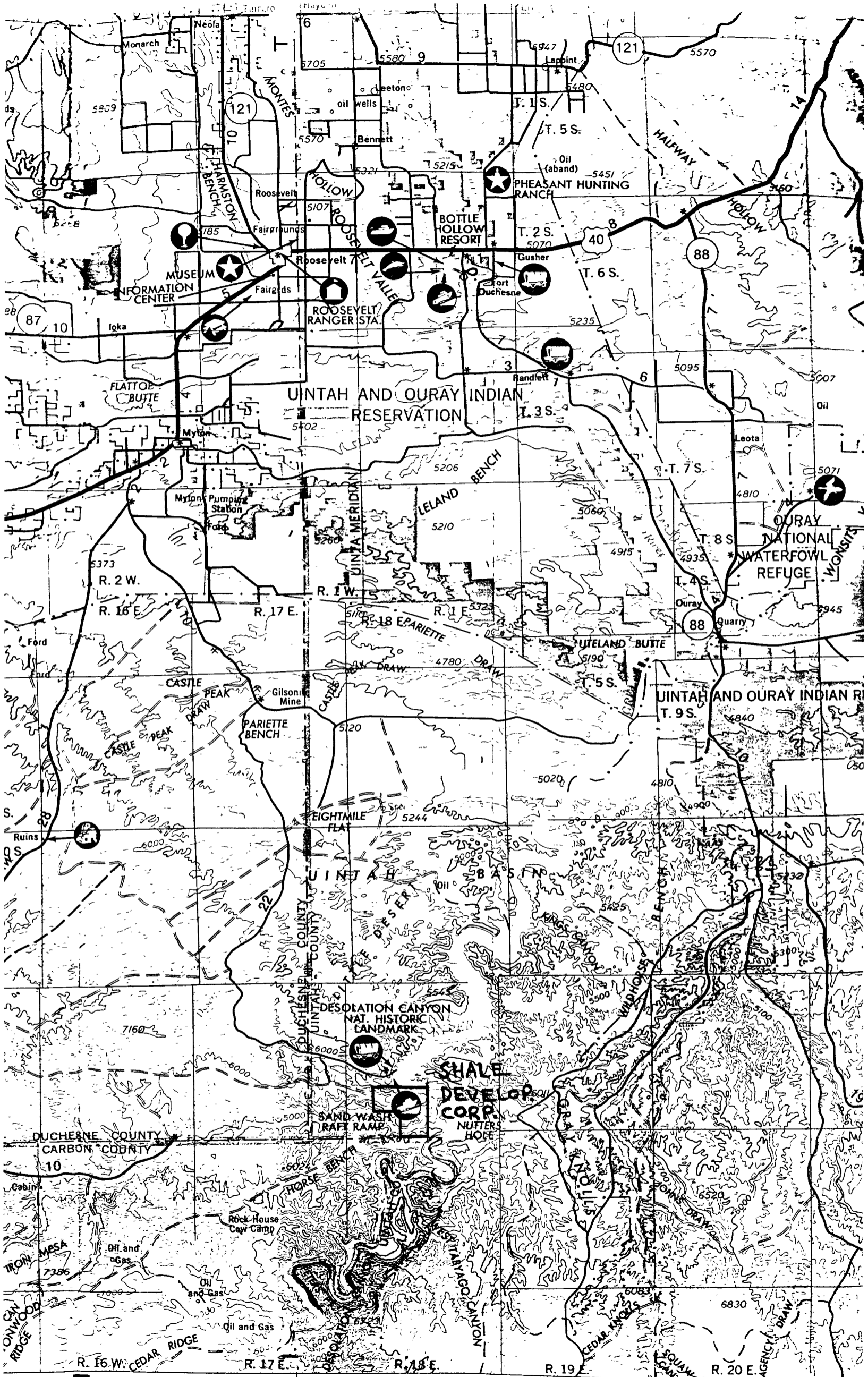
DATE: March 3, 1983

NE  $\frac{1}{4}$ , Sec. 29 NW  $\frac{1}{4}$  Sec. 33

SE  $\frac{1}{4}$  Sec. 29 SW  $\frac{1}{4}$  Sec. 28

	Operation	Amount	Rate	Cost
A.	<b>CLEAN-UP</b>			
	1. Removal of structures & equipment.	240 hours	\$10/hr.	2400
	2. Removal of trash & debris.	12T Crane	\$430/day	\$430
	3. Leveling of ancillary facilities pads and access roads.	Equipment hauling contract	1650 120=8x15	1650 120
		1 equip. operator	\$310/day	
		8 days (truck and driver)		\$2480
B.	<b>REGRADING &amp; RECONTOURING</b>			
	1. Earthwork including haulage and grading of spoils, waste and overburden.			
	2. Recontouring of highwalls and excavations.	5000 c.y.	\$1.05/c.y.	\$5250
	3. Spreading of soil or surficial materials.			
C.	<b>STABILIZATION</b>			
	1. Soil preparation, scarification, fertilization, etc.	4 hrs. operator	\$10/hr	40
		Tractor 4 hrs.	\$20/hr	80
	2. Seeding or planting.	Soil prep. 4 hrs	\$15/hr	60
		100# fertilizer	15/lb	15
	3. Construction of terraces, waterbars, etc.	50# seed	\$200/lb	\$100
D.	<b>LABOR</b>			
	1. Supervision.	60 Hours	\$1650/hr	\$1,000
	2. Labor exclusive of bulldozer time.			
E.	<b>SAFETY</b>			
	1. Erection of fences, portal coverings, etc.			
	2. Removal or neutralization of explosive or hazardous materials.			
F.	<b>MONITORING</b>			
	1. Continuing or periodic monitoring, sampling & testing deemed necessary.	12 quarterly trips	\$250/trip	\$3000
			10%/contingency	1662
				18,287
G.	<b>OTHER</b>			
	1984 - \$20,116			
	1986 - \$22,127			
	1987 - \$24,340			





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